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Review Article

Review On Medicinal Importance Of Indian Spices

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ABSTRACT

This review study described important therapeutic uses of some species. From an ancient time, spices have been used to impart flavour and taste to food. India is the biggest maker and shopper of a few significant normal spices. Significant Indian spices are cardamom, pepper, turmeric ginger, and chilies. Besides this, some of the species have very important medicinal value to treat acute or chronic diseases. They are also popular for their aromatic and pungent taste. Most species like garlic, onion, pepper, nutmeg, cumin, nutmeg, cloves, chilies, asafetida etc. are widely used for their medicinal property as well as for incredible taste. The most important ingredients are terpene oil and Oleoresin which the spices that are popularly known for imparting a spicy taste. Both components were found to be useful in medicines. Spices are rich in vitamins, terpenoids, oleoresins, flavonoids, alkaloids, prostaglandins and essential oils.

INTRODUCTION

India has been well known for assortments of flavours since the antiquated time for its colorful flavour, taste and medicinal values, therefore known as the home of Spices. Spices imply entire or ground structure from normal plants or vegetable items which has been utilized for bestowing flavour, fragrance and sharpness to food sources and utilized for preparing food varieties. It additionally has non-food applications

in colouring, perfumery items and neutraceutical ventures. It covers the ruined kind of meat that improves the timeframe of realistic usability of food sources 1, 2. Various pieces of the plants or tree are utilized as flavours, for example, fruits, leaves, bark, seeds, aril, bulbs, berries leaves, bits, and many more. Though recently there has been tremendous growth in the traditional systems of health care worldwide, in countries like India, China and Brazil. The healthcare scenario has

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always been associated with the traditional system of medicine. These countries still have very rich biological as well as cultural diversity and the traditional healthcare systems have a deep influence on the current healthcare scenario in these nations. Plants were used much before for healing and health, food itself is a part of health, thus vegetable sources are the first ever known substances for health and healing 3-4. Herbs and spices are among the most versatile and widely used ingredients in food processing. As well as their traditional role in colouring and flavouring food, they have been increasingly used as natural preservatives and for their potential health-promoting properties like antioxidants. India grows over 50 different varieties of species. The total production of spices in India is around 2.7 million tones and it is exported to 150 countries. The Indian share of the world trade in spices is 45-50% as well as very high utilization, as spices are faddism in India, but spices have a very important medicinal value in the treatment of acute and chronic disease Spices are aromatic, pungent, substances. Spices do not make a significant contribution to nutrition as they are consumed in small quantities. The saying "One man's meat is another man's poison" applies particularly to spices. Spices should be used to bring out the best flavour in food and make it more appetizing rather than to give food a pungency that irritates the mouth and masks the original flavour 5, 6. The spices are known to contain terpenoids as their main constituents which exert a wide spectrum of activities like antiseptic, diuretic, stimulant, carminatives, anthelmintic, analgesic, anti-rheumatic, aromatic, counter-irritant etc. 7 Names, biological sources, families and the medicinally important parts of a few widely used spices in India are listed as follows which explain their chemical composition and biological activities of the different spices:-

1. Asafoetida

- a. Asafoetida (Hing), Biological source: *Ferula anthrax*, *F. foetida*, Family: Umbelliferae Part: Resin). It is the most famous flavour utilized in day-to-day food by people groups. It contains fundamentally ferulic corrosive, umbellic corrosive and a ketonic substance known as umbelliferone. It has numerous exercises. Powder of Asafoetida is utilized as carminative, it is likewise utilized in blacking out, pretentious colic and persistent bronchitis as well as it is utilized to treat asthma in grown-ups
- b. Uses and health benefits
- c. It is also used in the treatment of chronic bronchitis and whooping cough.
- d. It is used as an antimicrobial agent.
- e. It increases the levels of detoxification enzymes in the body.

2. Cardamom

Cardamom (Elaichi) Biological source: *Elettaria cardamomum*, Family: Zingiberaceae, Part: Seed). In India, the cardamom is cultivated in the states of Kerala, Tamilnadu, Asam, West Bengal and Karnataka. It is one of the most important spices that are used daily. It was found to contain constituents like cineole, terpenyl acetate, borneol, and terpineol as a major chemical composition. Triturated powder of this is mainly used as a stimulant, carminative, and diuretic. It is also used in the treatment of gonorrhoea and as an anti-microbial 8

3. Chilly

Chillies (Mirch) Biological source: *Capsicum annum*, *C. fastigiatum*, *C. minimum*, *C. frutescens*. It is one of the most important spices, bark and seeds contain capsaicin and along with this it also contains ascorbic acid, thiamin, capsanthin, and capsorubin. It was found to contain acyclic glycoside (as geranyl linalool derivatives) like capsaicosides. It is widely used as a stimulant and used in osteoarthritis, post-hepatic neuralgia &



painful diabetic neuropathy, it also increases fibrinolytic activity.⁹

- a. Uses and health benefits
- b. It is used as a food seasoning agent.
- c. It is a stimulant of ptyalin present in saliva which helps indigestion.
- d. A green chilly is rich in Vitamin A and vitamin C.
- e. It is carminative and helps to stimulate blood circulation.
- f. It is also good for sore throat

4. Cinnamon

Cinnamon (Dalchini), Biological source: *Cinnamomum zeylanicum*, *C.verum* Lauraceae Part: Bark. In India, every food contains this spice as it is very popular in daily meals and locally it is well-defined as Dalchini. It contains cinnamic aldehyde, cinnamyl acetate, p-hydroxy cinnamyl 10, eugenol etc. as a major constituent. It is used as a flavouring agent, astringent, carminative & germicidal. Mostly extracts of bark and leaves are used in medicines as well as in perfumes.

5. Clove

Clove (Lavang), Biological source: *Eugenia caryophyllata*, *Syzygium aromaticum* Myrtaceae Part: Buds. For a long time, India has been one of the major importers of clove, but now it has been cultivated in the Konkan region of Maharashtra state. Clove constituted eugenol, caryophyllene, isoeugenol, fernalol, sitosterol, campesterol etc. as a major chemical constituent. Medicinally it is used as a stimulant, aromatic and anticarcinogenic. It is popularly known as an oral analgesic as it gives relief from toothache, it was found to be useful in indigestion, in most of the region it is used as an antimicrobial and hepato protective 11-12.

6. Coriander

(Coriander (Dhania) Biological source: *Coriandrum sativum* Family: Umbelliferaea Part: Fruits). An important chemical constituent in it is linalool (coriander) while other constituents are

pinene, limonene, cymene terpinene, etc. Fruit contains 0.4%-1.1% of oil. It is used in curries as a flavouring agent, medicinally it is used as a carminative and it is mainly recommended in anaemic conditions etc.

7. Cumin

Cumin (Jira) Biological source: *Cuminum sativum* Family: Umbelliferaea Part: Fruits. It is one of the spices which contain pinene, terpinol and cuminic aldehyde, as major constituents. Seeds contain 3.5% of oil in which cumin is present and its fruit contains cuminol. It is popularly used as a carminative and in intestinal colic.

8. Garlic

Garlic (Lasun) Biological source: *Allium sativum* Family: Liliaceae Part: Bulbs. It is a part of Indian food and it contains diallyl disulphide, allicin allylpropyl disulphide, and allin etc. as its main constituents. It is reported as an anthelmintic, appetizer, diuretic and hepatoprotective 12. Mostly it is useful in bronchitis, piles, asthma, tumours, leucoderma, hypoglycemic, antioxidant, aphrodisiac, and memory functions 13-15. Garlic also contains disulfides, thiols, thiosulphates, and trisulfides, which are proven to be very useful in the treatment of diabetes.

- a. Uses and health benefits
- b. Garlic has antibacterial properties against gram-positive and gram-negative bacteria.
- c. Extract of the garlic can lower the serum cholesterol levels and prevent heart diseases
- d. It is used to treat various digestive disorders.
- e. It possesses a platelet aggregation inhibitor factor.
- f. Use as a condiment for flavouring dishes.
- g. Garlic oil is used as an insecticide.

9. Onion

Onion (Pyaj) Biological Source: *Allium cepa* Family: Liliaceae

Part: Bulbs

It is a very well-known component of the diet. Red onion contains quercetin and prostaglandin which



is very useful in asthma. It is rich in chemical constituents like allyl propyl disulphide, cysteines, sulfoxide, propyl disulphide, allyl sulphide etc. It is used effectively in body pain, bleeding, tumours, malaria, asthma, and scabies. It is reported as aphrodisiac 14.

10. Nutmeg

Nutmeg (Jaiphal) Biological source: *Myristica fragrans*, *Myristica malabarica* Family: Myristicaceae Part: Kernels. It is a dry fruit that contains mostly sabinene, elemicin, eugenol, and myristicin pinene, and it is used as a carminative, infantine diarrhoea, chronic rheumatism and antimicrobial.

11. Pepper

Pepper (Miri), Biological source: *Piper nigrum* Family: Piperaceae Part: Fruits. In Maharashtra, It is cultivated in Ratnagiri and Culaba districts. It is one of the spices which contain alkaloids like piperine, piperine, limonene, sabinene, pinene, cymene etc. Olio-resin gives spiciness to pepper and this is the best remedy for the common cold, antioxidant and hepatoprotective 17-18.

- a. Uses and health benefits
- b. It is used with hot milk for throat infections.
- c. It is used effectively in the treatment of rheumatism and muscular pain, intestinal gas and headache.
- d. It is believed that piperine increases the bioavailability of other medicines by
- e. Increasing their absorption and delaying their metabolism.

12. Turmeric

Turmeric (Haldi) Biological source: *Curcuma longa*, *C.domestica*. Family: Zingiberaceae Part: Roots. It is a God's gift to human beings as it is most important in spice and widely used for its excellent medicinal properties. This is mostly available and distributed in different regions of Maharashtra like Satara, Sangli, Kolhapur, Pune, Nanded, Chandrapur, Osmanabad, Yavatmal, Parbhani districts etc. Olio-resin is one of the

major components obtained from turmeric. This drug contains curcuminoid, curcumin, dicyclopentyl methane. Pharmacologically it is widely used as wound healing, antioxidant 19-20 antibacterial 21 hepatoprotective in jaundice, diuretic, choleric, in smallpox and chickenpox.

- a. Uses and health benefits
- b. It is used as an anti-oxidant due to the presence of a phenolic bioactive compound of curcuminoids.
- c. Generally used for flavouring and colouring food.
- d. Principal use in the manufacture of curry powders.
- e. Turmeric oleoresin is used instead of powder in pickles, gelatin, butter & cheese.
- f. Essential oil of turmeric is antimicrobial, antiseptic & antibacterial (due to the sodium salts of curcumin & curcuminoids).
- g. Used as a blood purifier and antibiotic.

13. Fenugreek

Fenugreek (Methi), Biological source: *Trigonella foenumgraceum* Family: Leguminosae Part: Seeds. It is a well-known spice that is included as a spice in food by Indian peoples and it contains alkaloids and it contains alkaloids such as trigonelline, furestenol glycoside such as trigofenosides A-G, 4-hydroxy isoleucine and it is used in treatment of various diseases like as antidiabetic, antiulcer, anticancer, and for lowering cholesterol level. It also possesses insulin-stimulating activity 22-23

- a. Uses and health benefits
- b. It is used to reduce blood sugar levels.
- c. It is also used with buttermilk in the treatment of dysentery.
- d. Fenugreek seeds are having many medicinal properties such as bronchitis, tuberculosis infection, skin irritations, digestive disorders, ulcers and menopausal symptoms, and diabetes.

14. Ginger



Ginger (Adrak) Biological source: *Zingiber officinale* Family: Zingiberaceae Part:Roots. It is a good spice among all spices. It contains chemically cineol, pinene, cymene, and gingerone and it is mostly used as a hepatoprotective, antiulcer 24-25, and antiplatelet 26, 27. It has also been used as a prophylactic in the treatment of motion sickness for a long ago. 28

- a. Uses and health benefits
- b. Ginger Tea is a ginger concoction effective in Colds and coughs.
- c. It is used as a carminative and gastrointestinal stimulant.
- d. Gingeroleo resin is used for flavouring soft drinks and in medicine.
- e. Ginger provides relief in piles, Rheumatism and Headache.
- f. Fresh ginger juice is useful for diabetics

CONCLUSION

Regularly involved spices in various groceries have an expansive range of bio-capabilities because of the presence of bioactive mixtures (curcumin, eugenol, capsaicin, thymol, gingerol crocetin, D-carvone, D-limonene aldehyde cumin, and so on) which might give promising medical advantages to our body from the numerous normal issues like cough, cold, fever, headache, stomach issues, cancer etc. The presence of strong flavour and smell flavours are utilized in small amounts that bestow lower calories to food, but it advanced the food sources with assortments of fundamental minerals, albeit a few flavours determined structure seed contain a high measure of fat, protein and carbohydrates. In the current pandemic circumstance of Coronavirus, flavours, for example, turmeric, ginger, clove, pepper, cinnamon, and cardamom are generally utilized in various food sources plan as homegrown tea, masala tea, kadha, and so on, which assume a significant part to capture or decrease the impact of this infection. In the wake of surveying this part, we can have the option to involve the right flavours

in the suitable problems and get helped by its astounding utilitarian, restorative and dietary properties.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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